

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re patent application of

Peter Gansen

Confirmation No. 9638

Serial No. 09/726,075

Group Art Unit 1711

Filed November 29, 2000

Examiner Cooney

For MOLDING MADE FROM POLYURETHANE AND PROCESS FOR ITS
PRODUCTION

Commissioner for Patents

PO Box 1450

Alexandria, Virginia 22313-1450

SUBMISSION OF APPELLANTS' BRIEF UNDER 37 C.F.R. §41.37

Dear Sir:

This brief is in furtherance of the Notice of Appeal, filed in this case on March
16, 2007.

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I. REAL PARTY IN INTEREST

The real party in interest in the appeal is:

☐ the party named in the caption of this brief.

☒ the following party: TechnoGel GmbH of Duderstadt, Germany

II. RELATED APPEALS AND INTERFERENCES

With respect to other appeals, interferences or judicial proceedings that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal:

☒ there are no related appeals, interferences or judicial proceedings related to, which directly affect or may be directly affected by or have a bearing on the Board's decision in this pending Appeal.

☐ these are as follows:

III. STATUS OF CLAIMS

The status of the claims in this application are as follows:

A. Total number of claims in Application

Claims in the application are: Claims 70-74 totaling five (5) claims

B. Status of all the claims:

1. Claims cancelled: claims 1-69 and 75-80
2. Claims withdrawn from consideration but not cancelled: none
3. Claims pending: Claims 70-74
4. Claims allowed: none
5. Claims rejected: Claims 70-74

C. Claims on Appeal.

The claims on appeal are: Claims 70-74

IV. STATUS OF AMENDMENTS

There are no amendments which were filed after final rejection mailed October 27, 2006. Proposed amendments were discussed by Examiner Interview, referenced in the Office Communication dated March 5, 2007; however, no amendments after final rejection were filed in the application.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The claimed invention is drawn to a seat cushion which combines the spring like properties of a foam with the damping properties of a gel. The seat cushion has a covering material that a user would sit on that is leather, film or textile, where the cover is impervious to polyurethane gel. The combined spring/damping characteristics are provided to the seat cushion by a multilayered molding positioned under the covering material. The multilayered molding includes a polyurethane gel layer, a polyurethane foam layer that is different from said polyurethane gel layer, and a bond between the polyurethane gel and the polyurethane that is formed only from the polyurethane gel and the polyurethane foam, i.e., no glue or other adhesive is required.

The claims chart below sets forth examples of how independent claim 70 and dependent claims 73 and 74 are supported in the patent application specification, however, it should be understood that the features of the claims are supported throughout the patent application text.

70. A seat cushion, comprising:	Page 9, line 2 indicates that the molding is designed as a seat cushion. Page 13, line 3 describes a seat mold.
a covering material that is impermeable to polyurethane gel and which is selected from the group consisting of leathers, films, and textiles;	Page 8, lines 12-16 indicates that the covering layer is impervious to the polyurethane gel and can be a film, leather or textile.

a multilayered polyurethane molding positioned under the covering material, said multilayered polyurethane molding comprising	Page 8, lines 18-23 references multiple layers of polyurethane gel and polyurethane foam. Page 9, lines 2-5 indicate that the covering material is on the seat panel side above the molding. Page 10, line 19 indicates that the covering lines the mold (i.e., it will be on top of the multilayer molding after the molding process).
at least one polyurethane gel layer;	Page 8, line 19 references the polyurethane gel layer.
at least one polyurethane foam layer, said at least one polyurethane gel layer and said at least one polyurethane foam layer being different from one another; and	Page 8, line 6 indicates that the gel and foam layers are different materials. Page 8, lines 19-23 indicates that there is a polyurethane foam layer and a polyurethane gel layer, and that the two layers have different properties (e.g., spring and damping element). Page 10, lines 1-4 indicates that the two materials are different from each other.

<p>a bond between said at least one polyurethane gel and said at least one polyurethane foam which is formed only from said at least one polyurethane gel and said at least one polyurethane foam.</p>	<p>Page 7, line 24 indicates that the gel and the foam are joined by implicit adhesive properties during production. Page 8, lines 1-3 indicates that the bond material integrated in the molding of the invention joins the spring and damping properties of the individual materials. Page 9, in the last two lines, indicates that the two compositions (the gel and the foam) are joined to one another during foaming and curing. Page 10, lines 1-4 notes that the adhesive properties of the two different polyurethanes are used for joining. Page 13, in the last three lines, discusses joining the materials by reacting the gel with the foam. Page 14, line 3 indicates that a bond of the gel and the foam is produced during completion of the reaction.</p>
<p>73. The seat cushion of claim 70 wherein said at least one polyurethane gel at least partially surrounds said at least one polyurethane foam.</p>	<p>Page 8, lines 24-26 indicates that in one embodiment a foam block can be partially surrounded by a gel.</p>
<p>74. The seat cushion of claim 70 wherein said at least one polyurethane foam at least partially surrounds said at least one polyurethane gel.</p>	<p>Page 8, lines 24-26 indicates that in one embodiment the gel layer may be surrounded at least partially by foam.</p>

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The issues on appeal are whether claims 70-74 are anticipated by U.S. Patent 5,844,013 to Kenndoff or are obvious over Kenndoff.

ARGUMENT VIIA. REJECTIONS UNDER 35 U.S.C. §112, FIRST PARAGRAPH

There are no rejections under 35 U.S.C. §112, first paragraph.

ARGUMENT VIIB. REJECTIONS UNDER 35 U.S.C. §112, SECOND PARAGRAPH

There are no rejections under 35 U.S.C. §112, second paragraph.

ARGUMENT VIIC. REJECTIONS UNDER 35 U.S.C. §102

At the outset, it is clear that U.S. Patent 5,844,013 to Kenndoff does not disclose a seat cushion.

Kenndoff does not disclose a covering material such as leather, film or textile which is impervious to polyurethane gel.

Kenndoff does not disclose a multilayered molding.

Kenndoff does not disclose two layers of different polyurethane materials, one layer of which is a gel and the other layer of which is a foam.

Each of these elements are required in claim 70. Since none of these elements are disclosed, the claims cannot be anticipated by Kenndoff.

The invention is directed to a seat cushion, such as for example those used on office chairs (see page 3, at line 22). The seat cushion has a covering material which is leather, film, or textile in character. The covering material is the part of the chair that a person sitting in it contacts when he or she sits down. The covering material is impermeable to polyurethane gel. Under the covering material, there is a multilayered polyurethane molding. The molding includes (1) at least one polyurethane gel layer and (2) at least one polyurethane foam layer. The gel and foam layers are different from one another. The gel and foam layers are bonded together by a bond which is formed only from said polyurethane gel and said at least one polyurethane foam (see page 4, at lines 13-15). Their can be more than one layer of gel or foam. The foam can be positioned on top of the gel. The gel could partially surround the foam, or the foam could partially surround the gel depending on the needs of the manufacturer (see page 4, at line 20).

The invention combines the spring characteristics of a foam with the damping characteristics of a gel, and represents a considerable advance in seat comfort (see page 2, at line 28). That is, the "seated" feeling in foam is combined with the pressure distributing properties of polyurethane gel (see page 6, at line 27 et seq.).

The Examiner has erroneously concluded that claims 70-74 are anticipated by

U.S. Patent 5,844,013 to Kenndoff.

First, it has been recognized by the Examiner that Kenndoff is not directed to a seat cushion. Rather, Kenndoff describes a wound dressing used to treat deep wounds suffered by human beings. Thus, on its face, Kenndoff does not anticipate the claimed invention.

Second, Kenndoff describes a hydrophilic polyurethane gel foam. Kenndoff does not describe an item which has both (1) a polyurethane gel layer, and (2) a polyurethane foam layer. Rather, Kenndoff contemplates a single layer, described as a hydrogel foam (see column 2, lines 31 et seq.) which is said to contain less absorber than prior wound dressings, to not require an anti-stick layer (anti-stick layers being required in prior wound dressings), and to be more flexible. As noted in Kenndoff at columns 2, line 38 to column 3, line 22, the Kenndoff device is a polyurethane gel foam and is obtained from (1) polyurethane gel, (2) water absorbing material, and (3) a non-aqueous foaming agent.

The Examiner has suggested that Kenndoff's teaching of using a polyurethane film as a backing (see column 4, at line 39), might be interpreted as satisfying the requirements of a gel layer and a foam layer. This is simply wrong. A film is not a gel or a foam. This can be well understood by Kenndoff's use of the film as a backing material (i.e., the film does not dampen and distribute like a gel, and provides no spring like a foam). Furthermore, in the Kenndoff embodiment where there is a polyurethane film as a backing to a polyurethane gel foam, there is no covering material selected from leathers, films and textiles as is required in the claimed invention.

Thus, Kenndoff cannot properly be deemed to anticipate the invention because it (1) does not teach a multilayer structure which includes both a polyurethane gel layer and a polyurethane foam layer, and (2) wholly lacks the covering material selected from leathers, films, and textiles.

Third, Kenndoff does not teach a multilayered polyurethane molding. Moldings are produced in a mold, and a molded foam or other molded product

comprising a foam is quite different from a cast foam product. That is, there is a structural difference in the material itself. When a material is foamed in a closed mold, the weight is calculated so as to fill the whole mold completely and the formed product will have a skin different from the bulk of the foam (this was shown at the interview of May 18, 2006). As acknowledged in the office action, Kenndoff discloses the use of sheets. In particular, Kenndoff discloses at column 11, lines 1-5 that the product is a "sheet-like structure" (of gel foam) or "backing coated with hydrogel foam". With Kenndoff, the foam is cast on the backing or coated on the backing with a knife. Cast sheets of foam do not have the same appearance or structural characteristics as moldings (e.g., lack of skin which forms at mold surface). Thus, Kendoff cannot properly be deemed to anticipate the invention because it does not disclose a molding.

With particular respect to dependent claims Claim 73 and 74 which require that said at least one polyurethane foam at least partially surrounds said at least one polyurethane gel, or that said at least one polyurethane gel at least partially surrounds said at least one polyurethane foam. With reference to paragraphs 0026-0029 of the application, it can be seen that this is accomplished by, for example, inserting a pre-formed gel into a bottom of a mold or adhering it to a top of a mold and then foaming a polyurethane raw material to fill the mold (see paragraphs 0026-0028), or inserting a foam block in a mold and then filling the remainder of the mold with a gel composition (see paragraph 0029). Kenndoff, being a wound dressing that is a sheet like structure, does not show or suggest the structural feature of having the polyurethane foam at least partially surrounds said at least one polyurethane gel, or the polyurethane gel at least partially surrounds said at least one polyurethane foam.

ARGUMENT VIID. REJECTIONS UNDER 35 U.S.C. §103

As noted above, Kendoff does not describe a seat cushion. In sharp contrast, Kendoff discloses a wound dressing for treating deep wounds in patients. Kendoff is not directed to a product which combined the spring and damper mechanical properties of a foam and a gel. Rather, Kendoff is designed specifically for reducing absorbancy. At best, Kendoff shows a backing material (not a gel or foam—something that would not provide either spring or damper mechanical properties) on a gel foam material. Thus, Kendoff does not show a combination which would make the claimed invention obvious since one of the two essential elements of the multilayer molding is wholly missing from Kendoff.

Furthermore, one interested in the manufacture of seat cushions, and one that is particularly concerned with spring and damper mechanical properties would not look to the wound dressing art to solve any problems confronted by the present inventor. This is highlighted by the fact that Kendoff never addresses spring or damper mechanical properties. Kendoff is simply unconcerned with the same problem and would not be applicable to the problem without a significant hindsight reconstruction of the applicants own disclosure. Furthermore, even with hindsight reconstruction, the Kendoff reference would not make the claimed invention obvious because it wholly lacks several features of the claimed invention for the reasons noted above, and which are presented below in their entirety.

Kenndoff does not disclose a covering material such as leather, film or textile which is impervious to polyurethane gel.

Kenndoff does not disclose a multilayered molding.

Kenndoff does not disclose two layers of different polyurethane materials, one layer of which is a gel and the other layer of which is a foam.

Each of these elements are required in claim 70. Since none of these elements are disclosed, the claims cannot be anticipated by Kenndoff.

The invention is directed to a seat cushion, such as for example those used on

office chairs (see page 3, at line 22). The seat cushion has a covering material which is leather, film, or textile in character. The covering material is the part of the chair that a person sitting in it contacts when he or she sits down. The covering material is impermeable to polyurethane gel. Under the covering material, there is a multilayered polyurethane molding. The molding includes (1) at least one polyurethane gel layer and (2) at least one polyurethane foam layer. The gel and foam layers are different from one another. The gel and foam layers are bonded together by a bond which is formed only from said polyurethane gel and said at least one polyurethane foam (see page 4, at lines 13-15). Their can be more than one layer of gel or foam. The foam can be positioned on top of the gel. The gel could partially surround the foam, or the foam could partially surround the gel depending on the needs of the manufacturer (see page 4, at line 20).

The invention combines the spring characteristics of a foam with the damping characteristics of a gel, and represents a considerable advance in seat comfort (see page 2, at line 28). That is, the "seated" feeling in foam is combined with the pressure distributing properties of polyurethane gel (see page 6, at line 27 et seq.).

The Examiner has erroneously concluded that claims 70-74 are obvious over U.S. Patent 5,844,013 to Kenndoff.

First, it has been recognized by the Examiner that Kenndoff is not directed to a seat cushion. Rather, Kenndoff describes a wound dressing used to treat deep wounds suffered by human beings. Thus, on its face, Kenndoff does not make obvious the claimed invention. The claimed invention is simply different from a wound dressing. The claimed invention does not solve a problem that is solved in Kenndoff. Noone in the relevant art would look to Kenndoff for a solution to the mechanical problems of seat cushion design.

Second, Kenndoff describes a hydrophilic polyurethane gel foam. Kenndoff does not describe an item which has both (1) a polyurethane gel layer, and (2) a polyurethane foam layer. Rather, Kenndoff contemplates a single layer, described as a hydrogel foam (see column 2, lines 31 et seq.) which is said to contain less absorber

than prior wound dressings, to not require an anti-stick layer (anti-stick layers being required in prior wound dressings), and to be more flexible. As noted in Kenndoff at columns 2, line 38 to column 3, line 22, the Kenndoff device is a polyurethane gel foam and is obtained from (1) polyurethane gel, (2) water absorbing material, and (3) a non-aqueous foaming agent.

The Examiner has suggested that Kenndoff's teaching of using a polyurethane film as a backing (see column 4, at line 39), might be interpreted as satisfying the requirements of a gel layer and a foam layer. This is simply wrong. A film is not a gel or a foam. This can be well understood by Kenndoff's use of the film as a backing material (i.e., the film does not dampen and distribute like a gel, and provides no spring like a foam). Furthermore, in the Kenndoff embodiment where there is a polyurethane film as a backing to a polyurethane gel foam, there is no covering material selected from leathers, films and textiles as is required in the claimed invention.

Thus, Kenndoff cannot properly be deemed to make obvious the invention because it (1) does not teach a multilayer structure which includes both a polyurethane gel layer and a polyurethane foam layer, and (2) wholly lacks the covering material selected from leathers, films, and textiles.

Third, Kenndoff does not teach a multilayered polyurethane molding. Moldings are produced in a mold, and a molded foam or other molded product comprising a foam is quite different from a cast foam product. That is, there is a structural difference in the material itself. When a material is foamed in a closed mold, the weight is calculated so as to fill the whole mold completely and the formed product will have a skin different from the bulk of the foam (this was shown at the interview of May 18, 2006). As acknowledged in the office action, Kenndoff discloses the use of sheets. In particular, Kenndoff discloses at column 11, lines 1-5 that the product is a "sheet-like structure" (of gel foam) or "backing coated with hydrogel foam". With Kenndoff, the foam is cast on the backing or coated on the backing with a knife. Cast sheets of foam do not have the same appearance or

structural characteristics as moldings (e.g., lack of skin which forms at mold surface). Thus, Kendoff cannot properly be deemed to make obvious the invention because it does not disclose a molding.

With particular respect to dependent claims Claim 73 and 74 which require that said at least one polyurethane foam at least partially surrounds said at least one polyurethane gel, or that said at least one polyurethane gel at least partially surrounds said at least one polyurethane foam. With reference to paragraphs 0026-0029 of the application, it can be seen that this is accomplished by, for example, inserting a pre-formed gel into a bottom of a mold or adhering it to a top of a mold and then foaming a polyurethane raw material to fill the mold (see paragraphs 0026-0028), or inserting a foam block in a mold and then filling the remainder of the mold with a gel composition (see paragraph 0029). Kenndoff, being a wound dressing that is a sheet like structure, does not show or suggest the structural feature of having the polyurethane foam at least partially surrounds said at least one polyurethane gel, or the polyurethane gel at least partially surrounds said at least one polyurethane foam.

ARGUMENT VIII. REJECTION OTHER THAN 35 U.S.C. §§102, 103 AND 112

There are no rejections other than the rejection under 35 U.S.C. §103, discussed above.

VIII. CLAIMS APPENDIX

The text of the claims involved in the appeal are:

70. A seat cushion, comprising:

a covering material that is impermeable to polyurethane gel and which is selected from the group consisting of leathers, films, and textiles;

a multilayered polyurethane molding positioned under the covering material, said multilayered polyurethane molding comprising

at least one polyurethane gel layer;

at least one polyurethane foam layer, said at least one polyurethane gel layer and said at least one polyurethane foam layer being different from one another; and

a bond between said at least one polyurethane gel and said at least one polyurethane foam which is formed only from said at least one polyurethane gel and said at least one polyurethane foam.

71. The seat cushion of claim 70 wherein each of said at least one polyurethane gel and said at least one polyurethane foam are configured as one or more layers.

72. The seat cushion of claim 70 wherein said at least one polyurethane foam is positioned as a layer on top of said at least one polyurethane gel.

73. The seat cushion of claim 70 wherein said at least one polyurethane gel at least partially surrounds said at least one polyurethane foam.

74. The seat cushion of claim 70 wherein said at least one polyurethane foam at least partially surrounds said at least one polyurethane gel.

IX. EVIDENCE APPENDIX

There is no additional evidence on which Applicants rely in this Appeal.

X. RELATED PROCEEDINGS APPENDIX

There are no related proceedings involving this application.

Respectfully submitted,



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